UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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TRAN, DOUGLAS Q

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.		Applicant(s)	
Office Action Summary	09/527,516		NAKAZATO, HIROHIKO	
	Examiner		**Art Unit**	
	Douglas Q. Tran		2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6-14 and 18* is/are allowed.

6)☒ Claim(s) *15-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such the subject matter as a whole would have been obvious at the time the invention
> was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability
> shall not be negatived by the manner in which the invention was made.

2.   Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Lee (US Patent No. 6,567,175 B1) and Brown, III et al. (US Patent No.

5,960,166).

As to claim 15, Lee teaches a printing system (i.e., a computer-printer system 300

in fig. 3) comprising a computer (80 in fig. 3, col. 4, lines 57-58) and a printer (50 in fig.

3), the computer (80 in fig. 3) includes a plurality of printer drivers (i.e., 20a, 20b and 20c

in fig. 3) respectively corresponding to different emulations (col. 5, lines 5-10 describes

that the single printer driver "i.e., an integrated printer driver 25" including different sub-

programs or different emulators such as a plurality of the printer drivers 20a, 20b and 20c

are stored in the memory 20 according to the type of operating system "e.g. DOS,

Windows, UNIX" and a plurality of the application programs being used by the computer

80. Therefore, each of printer drivers provides each emulation so that the printer accepts

and understands for processing the type of the print data, via from one of printer drivers,

which is generated from one of the application programs as well as the operation system

from the computer 80); and

a printer driver selecting section (i.e., control unit 10 in fig. 1, col. 5, lines 18-23) which performs a comparison on the basis of at least an image data size, a free memory size of the computer and a free memory size of the printer, and selects on of the plurality of printer drivers based on a result of the comparison (it is noted that said computer comparing an environment of said computer "an operational state of the computer" and an environment of said printer "an operational state of the printer" to select one of said printer drivers based on a result of the comparison "col. 5, lines 18-23 describes that the control unit 10 of the computer 80 includes a printer driver calling device 215 for searching and choosing one of the printer drivers corresponding to control signals from control unit 10 generated *after* control unit 10 determines the operational state of the computer 80 and the operational state of the printer 50" . It is understood that the comparison would be understood that it means for the checking of any environment in the computer and any environment in the printer how to be suitable in order for the print job is prepared by the selected printer driver. Therefore, an environment "or an operational state" of the computer and an environment "or an operational state" of the printer are determined as a normal operating "col. 5, lines 50-52". The normal operating would be considered as suitable operating or matching operating between the computer and the printer so that the print job is prepared for printing; and col. 5, lines 25-32 describes that the control unit 10 receives information about the state of computer and printer 50 such as a storage device overflow error or a band error. It should be understood that the capacity of the storage device or the band is related to the size of the image data from the computer. Thus, at least an image data size, a free memory size of the computer and a

free memory size of the printer is checked and the second printer driver is selected based

on that environment);

wherein the computer processes image data by using the selected printer driver

and sends the processed image data to the printer (it is noted that the purpose of the

selection of the printer driver among the printer drivers is that image data is processed by

that selected printer driver).

Although Lee teaches the print job is processed by the selected printer driver

before transmitting to the printer (50 in fig. 1), Lee does not explicitly teach the printer

processes the received data from the computer by using the judged emulation

corresponding to the selected printer driver.

Brown, in the same field of endeavor "i.e., printing system in fig. 1", teaches the

printer (12 in fig. 1) processes the received data from the computer (11 in fig. 1) by using

the judged emulation corresponding to the selected printer driver (col. 3, line 65 to col. 4,

line 5) (it is noted that, a printer driver including a plurality of the driver code "col. 3,

lines 60-62" from the host computer process the print data generated from the application

program based on the status of the computer and printer "col. 3, lines 18-28, 52-58"; Col.

3, lines 5-7 and 34-40 describes that many printer drivers for operation on host computers

such as a host computer 11 "in fig. 1" have been produced for creating page data both in

bitmap format and in a page description language "i.e., PDL" such as PCL format or

PostScript format. In another case, with respect to col. 3, lines 41-44, if the printer drivers

just produce the page description language "PDL", then the printer controller "12 in fig.

1" processes the received print job based on the type of the PDL format by converting it

into bit map format data for printing; and the printer processes the print data based on the emulation of that driver code from the computer "col. 4, lines 11-22").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the printer 50 of Lee for processing the received print data from the host computer by using the emulation corresponding to the selected printer driver as taught by Brown. The suggestion for modifying the printing system of Lee can be reasoned by one of ordinary skill in the art as set forth above by Brown because the modified printing system of Lee would increase the efficiency of the functionality of the printer by using the correct emulation for processing the print job from the selected printer driver. The resultant printing systems allow the printer easily to recognize the type of the print job and know how to process the print job when it receives the print format via the printer driver.

As to claim 16, Lee teaches a printing system (i.e., a computer-printer system 300 in fig. 3) comprising a computer (80 in fig. 3, col. 4, lines 57-58) and a printer (50 in fig. 3), the computer (80 in fig. 3) includes a plurality of printer drivers (i.e., 20a, 20b and 20c in fig. 3) respectively corresponding to different emulations (col. 5, lines 5-10 describes that the single printer driver "i.e., an integrated printer driver 25" including different sub-programs or different emulators such as a plurality of the printer drivers 20a, 20b and 20c are stored in the memory 20 according to the type of operating system "e.g. DOS, Windows, UNIX" and a plurality of the application programs being used by the computer 80. Therefore, each of printer drivers provides each emulation so that the printer accepts and understands for processing the type of the print data, via from one of printer drivers,

which is generated from one of the application programs as well as the operation system

from the computer 80);

a data transfer speed determining section, which determines a data transfer speed

when image data is transferred from the computer to the printer (col. 5, lines 14-16 and

col. 5, lines 59-66: the computer inherently comprises a component corresponding to a

data transfer speed determining section for determining a data transfer speed);

a printer driver selecting section (i.e., control unit 10 in fig. 1, col. 5, lines 18-23)

which selects one of printer drivers on the basis of at least an image data size, a free

memory size of the printer and the data transfer speed (col. 5, lines 14-16) (it is noted that

said computer checking an environment of said computer "an operational state of the

computer" and an environment of said printer "an operational state of the printer" to

select one of said printer drivers "col. 5, lines 18-23 describes that the control unit 10 of

the computer 80 includes a printer driver calling device 215 for searching and choosing

one of the printer drivers corresponding to control signals from control unit 10 generated

after control unit 10 determines the operational state of the computer 80 and the

operational state of the printer 50" . It is understood that the checking of any environment

in the computer and any environment in the printer how to be suitable in order for the

print job is prepared by the selected printer driver. Therefore, an environment "or an

operational state" of the computer and an environment "or an operational state" of the

printer are determined as a normal operating "col. 5, lines 50-52". The normal operating

would be considered as suitable operating or matching operating between the computer

and the printer so that the print job is prepared for printing; and col. 5, lines 25-32

describes that the control unit 10 receives information about the state of computer and

printer 50 such as a storage device overflow error or a band error. It should be understood

that the capacity of the storage device or the band is related to the size of the image data

from the computer;

wherein the computer processes image data by using the selected printer driver

and sends the processed image data to the printer (it is noted that the purpose of the

selection of the printer driver among the printer drivers is that image data is processed by

that selected printer driver).

Although Lee teaches the print job is processed by the selected printer driver

before transmitting to the printer (50 in fig. 1), Lee does not explicitly teach the printer

processes the received data from the computer by using the judged emulation

corresponding to the selected printer driver.

Brown, in the same field of endeavor "i.e., printing system in fig. 1", teaches the

printer (12 in fig. 1) processes the received data from the computer (11 in fig. 1) by using

the judged emulation corresponding to the selected printer driver (col. 3, line 65 to col. 4,

line 5) (it is noted that, a printer driver including a plurality of the driver code "col. 3,

lines 60-62" from the host computer process the print data generated from the application

program based on the status of the computer and printer "col. 3, lines 18-28, 52-58"; Col.

3, lines 5-7 and 34-40 describes that many printer drivers for operation on host computers

such as a host computer 11 "in fig. 1" have been produced for creating page data both in

bitmap format and in a page description language "i.e., PDL" such as PCL format or

PostScript format. In another case, with respect to col. 3, lines 41-44, if the printer drivers

just produce the page description language "PDL", then the printer controller "12 in fig.

1" processes the received print job based on the type of the PDL format by converting it

into bit map format data for printing; and the printer processes the print data based on the emulation of that driver code from the computer "col. 4, lines 11-22").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the printer 50 of Lee for processing the received print data from the host computer by using the emulation corresponding to the selected printer driver as taught by Brown. The suggestion for modifying the printing system of Lee can be reasoned by one of ordinary skill in the art as set forth above by Brown because the modified printing system of Lee would increase the efficiency of the functionality of the printer by using the correct emulation for processing the print job from the selected printer driver. The resultant printing systems allow the printer easily to recognize the type of the print job and know how to process the print job when it receives the print format via the printer driver.

As to claim 17, Lee teaches a printing system (i.e., a computer-printer system 300 in fig. 3) comprising a computer (80 in fig. 3, col. 4, lines 57-58) and a printer (50 in fig. 3), the computer (80 in fig. 3) includes a plurality of printer drivers (i.e., 20a, 20b and 20c in fig. 3) respectively corresponding to different emulations (col. 5, lines 5-10 describes that the single printer driver "i.e., an integrated printer driver 25" including different sub-programs or different emulators such as a plurality of the printer drivers 20a, 20b and 20c are stored in the memory 20 according to the type of operating system "e.g. DOS, Windows, UNIX" and a plurality of the application programs being used by the computer 80. Therefore, each of printer drivers provides each emulation so that the printer accepts and understands for processing the type of the print data, via from one of printer drivers,

which is generated from one of the application programs as well as the operation system

from the computer 80);

a printer driver selecting section (i.e., control unit 10 in fig. 1, col. 5, lines 18-23)

which selects one of printer drivers on the basis of the status of the computer and the

printer (it is noted that said computer checking an environment of said computer "an

operational state of the computer" and an environment of said printer "an operational

state of the printer" to select one of said printer drivers "col. 5, lines 18-23 describes that

the control unit 10 of the computer 80 includes a printer driver calling device 215 for

searching and choosing one of the printer drivers corresponding to control signals from

control unit 10 generated *after* control unit 10 determines the operational state of the

computer 80 and the operational state of the printer 50" . It is understood that the

checking of any environment in the computer and any environment in the printer how to

be suitable in order for the print job is prepared by the selected printer driver. Therefore,

an environment "or an operational state" of the computer and an environment "or an

operational state" of the printer are determined as a normal operating "col. 5, lines 50-

52". The normal operating would be considered as suitable operating or matching

operating between the computer and the printer so that the print job is prepared for

printing; and col. 5, lines 25-32 describes that the control unit 10 receives information

about the state of computer and printer 50 such as a storage device overflow error or a

band error. It should be understood that the capacity of the storage device or the band is

related to the size of the image data from the computer),

wherein the computer processes image data by using the selected printer driver

and sends the processed image data to the printer (it is noted that the purpose of the

selection of the printer driver among the printer drivers is that image data is processed by

that selected printer driver).

Although Lee teaches the print job is processed by the selected printer driver

before transmitting to the printer (50 in fig. 1), Lee does not explicitly teach a printer

driver is selected on basis of the determined drawing capability of computer and printer

and the printer processes the received data from the computer by using the judged

emulation corresponding to the selected printer driver.

Brown, in the same field of endeavor "i.e., printing system in fig. 1", teaches a

printer driver is selected on basis of the determined drawing capability of computer (the

statement, col. 1, lines 25-32, is indicated as the well known of the prior art), and the

printer (12 in fig. 1) processes the received data from the computer (11 in fig. 1) by using

the judged emulation corresponding to the selected printer driver (col. 3, line 65 to col. 4,

line 5) (it is noted that, a printer driver including a plurality of the driver code "col. 3,

lines 60-62" from the host computer process the print data generated from the application

program based on the status of the computer and printer "col. 3, lines 18-28, 52-58"; Col.

3, lines 5-7 and 34-40 describes that many printer drivers for operation on host computers

such as a host computer 11 "in fig. 1" have been produced for creating page data both in

bitmap format and in a page description language "i.e., PDL" such as PCL format or

PostScript format. In another case, with respect to col. 3, lines 41-44, if the printer drivers

just produce the page description language "PDL", then the printer controller "12 in fig.

1" processes the received print job based on the type of the PDL format by converting it

into bit map format data for printing; and the printer processes the print data based on the

emulation of that driver code from the computer "col. 4, lines 11-22").

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the printing system of Lee for determining of the drawing

capability of both of the computer and the printer so that the printer of Lee for processing

the received print data from the host computer by using the emulation corresponding to

the selected printer driver as taught by Brown. The suggestion for modifying the printing

system of Lee can be reasoned by one of ordinary skill in the art as set forth above by

Brown because the modified printing system of Lee would increase the efficiency of the

functionality of the printing system by selecting the printer driver based on the drawing

capability of the computer and the printer and printer by using the correct emulation for

processing the print job from the selected printer driver. The resultant printing systems

allow the printer easily to recognize the type of the print job and know how to process the

print job when it receives the print format via the printer driver.

Allowable Subject Matter

3.   Claims 6-14, 18 are allowed.

Claim 6 and 18 are independent claim.

The following is an examiner's statement of reasons for allowance:

As to claim 6, the present invention from the application discloses the structure of

the printing system comprising a computer having *printer driver selecting section* which

compares the environments of the computer and the printer from a *computer environment*

determining section and a *printer environment determining section* to select one of the

printer drivers; and the printer further including an *emulation judging section* which

judges one of the emulations corresponding to the selected one of the printer drivers. The

closest prior art such as Lee (US Patent No. 6,567,175 B1) discloses a printer driver

calling device for selecting one of printer drivers corresponding to control signals from

control unit generated after control unit determines the operational state of computer and

printer; and Brown, III et al. (US Patent No. 5,960,166) teaches that the printer receives

the print data in PDL format generated by the printer driver from the computer. However,

the combination of Lee and Brown, including an updated electronic text search, fails to

anticipate or render the above underlined limitations obvious.

As to claim 18, The closest prior art such as Lee (US Patent No. 6,567,175 B1)

discloses a printer driver calling device for selecting one of printer drivers corresponding

to control signals from control unit generated after control unit determines the operational

state of computer and printer; and Brown, III et al. (US Patent No. 5,960,166) teaches

that the printer receives the print data in PDL format generated by the printer driver from

the computer. However, the combination of Lee and Brown, including an updated

electronic text search, fails to anticipate or render the particular following limitations: "an

intermediate metafile generating section which generates an intermediate metafile from

image data; an intermediate metafile analyzing section which analyzes an evaluation size

of the generated intermediate metafile; and a printer driver selecting section which selects

one of printer drivers on the basis of the analyzed evaluation size and a free memory size

of the printer". The above underlined limitations render this claim allowable.

Response to Arguments and Amendment

4.   Applicant's arguments filed 4/15/04, with respect to claims 15-17, have been fully

considered but they are not persuasive.

Applicant asserted in page 9 that "In contrast, the printer driver in claim 15 is

selected based on a comparison "on the basis of at least an image data size, a free

memory size of the computer and a free memory size of the printer. Lee does not teach or

suggest printer drivers and/or control signals which are selected or changed based on any

comparison or that the selection of such printer drivers is related to image data size and

free memory size of both the printer and computer". In reply, the comparison is addressed

from the claim 15 without any of conditions. The limitation of "the comparison" is

merely meaning the checking or monitoring the status of both of the computer and the

printer. Lee clearly teaches a printer driver selecting section (i.e., control unit 10 in fig. 1,

col. 5, lines 18-23) which performs a comparison on the basis of at least an image data

size, a free memory size of the computer and a free memory size of the printer, and

selects on of the plurality of printer drivers based on a result of the comparison (it is

noted that said computer comparing an environment of said computer "an operational

state of the computer" and an environment of said printer "an operational state of the

printer" to select one of said printer drivers based on a result of the comparison "col. 5,

lines 18-23 describes that the control unit 10 of the computer 80 includes a printer driver

calling device 215 for searching and choosing one of the printer drivers corresponding to

control signals from control unit 10 generated *after* control unit 10 determines the

operational state of the computer 80 and the operational state of the printer 50" . It is

understood that the comparison would be understood that it means for the checking of

any environment in the computer and any environment in the printer how to be suitable in

order for the print job is prepared by the selected printer driver. Therefore, an

environment "or an operational state" of the computer and an environment "or an

operational state" of the printer are determined as a normal operating "col. 5, lines 50-

52". The normal operating would be considered as suitable operating or matching

operating between the computer and the printer so that the print job is prepared for

printing; and col. 5, lines 25-32 describes that the control unit 10 receives information

about the state of computer and printer 50 such as a storage device overflow error or a

band error. It should be understood that the capacity of the storage device or the band is

related to the size of the image data from the computer. Thus, at least an image data size,

a free memory size of the computer and a free memory size of the printer is checked and

the second printer driver is selected based on that environment).

Applicant asserted in page 11 that " neither Lee nor Brown teaches the element of

claim 17: ...selects one of the plurality of printer drivers on the basis of the size of the

image data, a free memory size of the printer and the data transfer speed". In reply, Lee

clearly teaches a data transfer speed determining section which determines a data transfer

speed when image data is transferred from the computer to the printer (col. 5, lines 14-16

and col. 5, lines 59-66: the computer inherently comprises a component corresponding to

a data transfer speed determining section for determining a data transfer speed).

Applicant asserted in page 11 that "neither Lee nor Brown teaches the element of

claim 17:...selects one of the plurality of printer drivers on the basis of the determined

computer drawing capability and the determined printer drawing capability". Brown, in

the same field of endeavor "i.e., printing system in fig. 1", which modifies the deficiency

of the Lee and teaches a printer driver is selected on basis of the determined drawing

capability of computer (the statement, col. 1, lines 25-32, is indicated as the well known

of the prior art).

For the above reasons, it is believed that the cited prior art fully discloses the

claimed invention and the rejection stand.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than
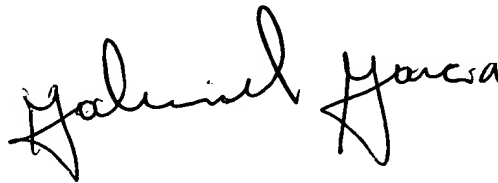
SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas Q. Tran whose telephone number is (703) 305-4857 or E-mail address is Douglas.tran@uspto.gov.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Douglas Q. Tran
July 07, 2004

GABRIEL GARCIA
PRIMARY EXAMINER